

CONTENTS

(iii)

Vol. 15, No. 1 — First Quarter 1991

Review Article: Polymer solid electrolytes: Charge transport mechanisms <i>M. A. Ratner</i>	1
Fourth Australian Conference on II-VI Semiconductor Compounds, Warburton, Victoria, Australia, April 1990 Sources of Group II-IV elements in Australia <i>D. F. A. Koch</i>	16
nCdS/pCdTe thin film solar cells: Comparisons between cells with different efficiencies <i>G. C. Morris, P. G. Tanner and A. Tottszer</i>	21
The scope of CdTe growth for production of epitaxial substrates <i>R. Triboulet</i>	30
Cd _{1-x} Mn _x Te/Cd _{1-y} Te superlattices by low temperature MOCVD <i>G. N. Pain, S. P. Russo, R. G. Elliman, L. S. Wielunski, D. Gao, S. R. Glanvill, C. J. Rossouw, A. W. Stevenson, R. S. Rowe, G. B. Deacon, R. S. Dickson and B. O. West</i>	35
Quantitative surface analysis of II-VI compounds <i>G. C. Morris and B. J. Wood</i>	44
Nuclear Microscopy of semiconductor heterostructures <i>D. N. Jamieson</i>	51
Adsorption on cadmium telluride and mercury telluride surfaces <i>K. A. I. L. Wijewardena, D. Neilson and J. Szymanski</i>	57
Mechanical and dielectric characterization of a side-chain liquid crystal polymer over a wide frequency range <i>G. P. Simon, A. Kozak, G. Williams and R. E. Wetton</i>	71
Factors influencing deformation of superplastic alloys. Part II: Grain boundary sliding <i>R. C. Gifkins</i>	82
Dynamic tear testing of modern structural steels <i>N. U. Ahmed and J. M. Yellup</i>	95
Anisotropy of mechanical properties of aluminium-lithium alloy sheet <i>I. M. Robertson</i>	102
Short Communication: Environmental influence on cathodic protection criteria for reinforced concrete structures: A theoretical approach <i>M. G. Ali and Rasheeduzzafar</i>	112

Vol. 15, No. 2 — Second Quarter 1991

Review Article: A review of investigations of the magnetization of steel due to the application of stress <i>I. M. Robertson</i>	117
Review Article: A review of wide bandgap II-V compounds <i>S. Shionoya</i>	132
Electrodeposited cadmium mercury telluride films <i>G. C. Morris and M. Marychurch</i>	143
Application of Rutherford backscattering and ion channelling in structure analysis of MOCVD-grown $Hg_{1-x}Cd_xTe$ epitaxial layers and $HgTe/CdTe$ superlattices <i>L. S. Wielunski, M. J. Kenny and G. N. Pain</i>	150
Photoluminescence spectroscopy of cadmium telluride films for solar cells <i>G. C. Morris and A. Tottzszer</i>	157
Comparison between evaporated and electrodeposited cadmium sulfide for nCdS/pCdTe solar cells <i>G. C. Morris, A. Tottzszer and S. K. Das</i>	164
The passivation of semiconductor surfaces — a review of successes and failures <i>E. E. Crisman, C. B. Roberts and P. J. Stiles</i>	171
Preparation and properties of undoped and copper doped zinc telluride films <i>G. C. Morris and P. G. Tanner</i>	179
Photoconductivity of A^2B^6 thin films under ultrafast excitation <i>J. Vaitkus, J. Storasta, M. Petrauskas, R. Tomasiunas, R. Masteika and A. Zindulis</i>	185
A laboratory study of abrasive wear of liner materials for the refractory industry <i>L. Xu and N. F. Kennon</i>	191

Vol. 15, No. 3 — Third Quarter 1991

Review Article: Electrorheological fluids and their applications <i>P. J. Burchill</i>	197
Review Article: Continuous casting of steel: An update <i>L. T. Hamilton</i>	205
<i>Technological applications of crystallographic textures of zirconium alloys</i> <i>K. L. Murty</i>	217
The strength properties of clearwood <i>P. D. Evans</i>	231
The grain size dependence of the flow stress in metals and alloys <i>B. A. Parker</i>	245
New concepts in stabilization and replacement of bones and joints <i>R. L. Huckstep and P. P. Lutton</i>	253
An XPS investigation of impurity glass in Y-TZP <i>A. E. Hughes and S. P. S. Badwal</i>	261
Hot isostatic pressing of Al-10% Mg alloy castings <i>G. R. Wakefield and R. M. Sharp</i>	268
Surface contamination measurement and control by non-destructive techniques <i>T. Chandra and A. Aurora</i>	274
Narrow-gap semimagnetic semiconductors <i>R. R. Galazka</i>	279
Effects of heat treatment on abrasive wear behaviour of a Ni-Cr-Mo-C tool steel <i>N. F. Kennon and L. Xu</i>	287

Vol. 15, No. 4 — Fourth Quarter 1991

Review Article: Structural timber

W. G. Keating 293

Review Article: Mechanical and thermal shock properties of duplex-ceramics — a review

E. H. Lutz and M. V. Swain 307

The effect of grain boundary γ' precipitation on the stress rupture behaviour of nimonic PE16

C. J. Moss and J. W. Martin 324

Morphology of impact damage growth by fatigue in carbon fibre composite laminates

G. Clark and D. S. Saunders 333

The influence of large particles on restoration behaviour of cold-worked 6061A/A1₂O₃ composite

T. Chandra and D. Yu 343

Studies of flexure of two different woven-fabric Kevlar/Epoxy composites

K. Padmanabhan, S. Sashidhara and Kishore 354

A technique for *in situ* SEM study of the fatigue behaviour of metals and ceramics

O. Ø Mouritsen and B. L. Karihaloo 360

Microstructures in quenched and tempered 0.14% C-1.96% C-3.6% Ni steel deformed in tension

Y-M. Liu 366

Preliminary laboratory study of steel slag for blended cement manufacture

D. G. Montgomery and G. Wang 374

Short Communication: Ionic conductivity of 2 mol% Y₂O₃ + 2 mol% Yb₂O₃-ZrO₂ single grain

S. P. S. Badwal, M. V. Swain and G. A. Gogotsi 383

Book Reviews 388

Author index to volume 15 392

Subject index to volume 15 393

